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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,756

07/28/2003

Hui Chang Yang

YANG50

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7590

10/22/2004

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EXAMINER

RILEY, SHAWN

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/627,756	<b>Applicant(s)</b> YANG, HUI CHANG	
	<b>Examiner</b> Shawn Riley	<b>Art Unit</b> 2838	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: use of the word “alternation” instead of clearer term such as converter. Further the grammar is awkward and confusing, e.g., at page 1 line 14 “therefore, the events such as low efficiency or diode needing large area of heat dissipating fan . . . is low. Similar grammatical problems through out spec.

Appropriate correction is required.

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. E.g. Flyback converter with synchronous rectifier controlled by isolated primary controller.

### *Claim Objections*

2. Claims 1-11 are objected to under 37 C.F.R. 1.75(a) because of the following informalities: The grammar of the claims is poor and confusing, e.g.,

3. in claim 1:

*line 1; alteration* (isn't this a converter)?

*line 2; synchronize control* (isn't this synchronized control)?

*line 2; which comprise of* (isn't this ‘which comprises’)?

*line 10; which is connect* (isn't this ‘which is connected’)?

*Etc., etc.,*

Appropriate correction is required.

Claims 8 is objected to under 37 C.F.R. 1.75(a) because of the following informalities:

Claim 8 contains the trademark/trade name IC 3843, 3842 or 6841. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim scope is unclear since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. For examination purposes the IC will be taken to be any pwm controller. Correction is required.

***Claim Rejections - 35 U.S.C. § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9 and 11 are rejected under 35 U.S.C. §102(b) as being fully anticipated by Lee (U.S. Patent 6,198,638). Lee shows,<sup>1</sup> (in, e.g., the(ir) figures and corresponding disclosure)

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<sup>1</sup> Note claims will be addressed individually and the material in parentheses are the examiner's annotated comments. Further unless needed for clarity reasons, recited limitation(s), will be annotated only upon their first occurrence. Annotated claims begin with the phrase "As to claim". Claims that are not annotated are seen as having already had the invention(s) addressed previously in an annotated claim. Bolded words/phrases indicate rejected material based 112 paragraph rejections. Underlined words/phrases indicate objected to material. For method claims, note that under MPEP 2112.02, the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform

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As to claim 1;

A flyback type *alteration* power supply with primary/secondary *synchronize control* (see, e.g., figure 4 with element 50), which *comprises of*: a transformer (T); a primary switching unit comprising at least a first switching component (see, e.g., figure 5 element SW) and a first control circuit (including 70/81/82), wherein, the first switching component is connected to the primary side of the transformer; and the first control circuit controls the conduction states of the switching component (see, e.g., column 5 lines 15-62); a secondary switching unit comprising at least a second switching component (SR), *which is connect* to the secondary side of the transformer; an insulating unit (IT), which is connected in between the first control circuit and the second switching component; wherein, the first control circuit controls the insulating unit to output a cut-off command signal (80 retards the output signal, that is produces a cut-off command, from 70, see, e.g., column 5 lines 36-62) to the second switching component for entering a cut-off state.

As to claim 2;

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the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). Therefore the previous rejections based on the apparatus will not be repeated.

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The flyback type alteration power supply in claim 1, wherein the first switching component is one of small signal controlled MOSFET (SW is shown as a MOSFET) (Metal Oxide Semi-conductor Field Effect Transistor) and thyristor.

As to claim 3;

The flyback type alteration power supply in claim 1, wherein the second switching component is one of small signal controlled MOSFET (SR is shown as a MOSFET) (Metal Oxide Semi-conductor Field Effect Transistor) and thyristor.

As to claim 4;

The flyback type alteration power supply in claim 1, wherein the insulating unit is one of a transformer (in figure 5 the insulating unit IT is shown as a transformer) and a light coupler (further, figure 4 shows an insulating unit as a optically coupled LED).

As to claim 5 (see rejection of claim 1);

A flyback type alteration power supply with primary/secondary synchronize control, which comprises of: a transformer; a primary switching unit comprising at least a first switching component and a first control circuit, wherein, the first switching component is connected to the primary side of the transformer; and the first control circuit controls the conduction states of the switching component; a secondary switching unit comprising at least a second switching component and a second control circuit, wherein, the second switching component is connected to the secondary side of the transformer; and the second control circuit controls the conduction states of the second switching component; and an insulating unit, which is connected in between the first control circuit and the second control circuit; wherein, the first control circuit controls the insulating unit to output a cut-off signal to the second control circuit, which commands the second switching component to enter cut-off state after it receives a cut-off signal.

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As to claim 6 (see rejection of claim 2);

The flyback type alteration power supply in claim 5, wherein the first switching component is one small signal controlled MOSFET (Metal Oxide Semi-conductor Field Effect Transistor) and thyristor.

As to claim 9 (see rejection of claim 2);

The flyback type alteration power supply in claim 5, wherein the second switching component is one of small signal controlled MOSFET (Metal Oxide Semi-conductor Field Effect Transistor) and thyristor.

As to claim 11 (see rejection of claim 4);

The flyback type alternation power supply in claim 5, wherein the insulating unit is one of a transformer and a light coupler.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee as applied to claims 1-6 above. However, Lee does not explicitly teach that the IC is integrated. Official notice is taken that it would have been obvious to integrate the controller (if it already was not in Lee) for the well known reason of reducing size of components to save space.

As to claim 7;

The flyback type alteration power supply in claim 5, wherein the first control circuit is a pulse-width modulation control IC (Lee, does for example recognize the use of IC vis a vis element 70 see column 5 lines 63-64).

As to claim 8;

The flyback type alteration power supply in claim 7, *wherein the assigned number of the pulse-width modulation control IC* (see above objection to claim 10, and column 5 lines 63-64) is 3843, 3842 or 6841.

***Allowable Subject Matter***

3. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. As allowable subject matter has been indicated, applicant's response must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 C.F.R. § 1.111(b) and section 707.07(a) of the M.P.E.P.



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5. The following is an examiner's statement of reasons for allowance: No prior art uncovered anticipates or renders obvious applicant(s) claimed flyback type alternation power including a voltage referencing level; a buffer circuit, which outputs voltage for controlling resistance variation of the second switching component; and a driving circuit, which adjusts the output voltage value of the buffer circuit base on the referencing voltage level; and keeps the voltage drop produced by the current flowing through the second switching component at a fixed voltage value; hence, allowing the resistance of the second switching component to vary inversely proportional along with output current of the transformer.

### *Conclusion*

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Mike Sherry who can be reached at 571.272.2084. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number 703.872.9306. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

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October 04

A handwritten signature in black ink, consisting of a large, stylized 'S' or 'R' shape with a horizontal line crossing it.

*Shawn Riley*  
*Primary Examiner*